

A
PRACTICAL TREATISE
ON THE
E F F I C A C Y
O F
S T I Z O L O B I U M,
O R,
C O W H A G E,

Internally administered, in Diseases occasioned by

W O R M S.

To which are added,

OBSERVATIONS on other Anthelmintic Medicines
of the WEST-INDIES.

—“ *To extend our Enquiries after the Powers of particular
Medicines in the Cure of particular Diseases.*”

Bacon de Aug. Scient. lib. iv. c. 2.

By WILLIAM CHAMBERLAINE, Surgeon.

L O N D O N :

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MDCCLXXXIV.

E R R A T A.

Page 30, l. 12, for, "*this* mucus," read, "*their* mucus."¹
71, l. 4, which she "had" taken.

TO
DOCTOR JOHN LEAKE,
PROFESSOR OF MIDWIFERY,
MEMBER OF THE ROYAL COLLEGE
OF PHYSICIANS, LONDON,
AND
PHYSICIAN TO THE WESTMINSTER
LYING-IN HOSPITAL;
THIS TREATISE,
AS A
SMALL, BUT SINCERE TESTIMONY,
OF
RESPECT AND ESTEEM
FOR HIS
MEDICAL AND MORAL CHARACTER,
IS HUMBLY DEDICATED,
BY
THE AUTHOR.

P R E F A C E.

THE universality of complaints arising from Worms, so destructive to the human body, must make every attempt to render those Maladies less frequent and fatal, a matter of importance to the public. The following sheets were therefore written, not only for the perusal of medical practitioners, but the information and benefit of the community.

The inefficacy of European medicines, even those esteemed the most powerful of vermifuges, induced me to offer this Treatise to the public; for, although some detached pieces relative to the exhibition of COWHAGE, have at different times appeared in print, (of which I have taken notice in the subsequent part of this work) I do not recollect that any thing has been written professedly and practically on that subject. It is therefore presumed, the present publication may not be deemed unnecessary, being intended for the introduction of this useful anthelmintic into more general use, and practically to identify two circumstances of the utmost importance, namely, its SAFETY, and EFFICACY.

It

viii P R E F A C E.

It is not, however, my design, in the following pages, to enter into a minute investigation of the nature and causes of worms in the human body, or to take up much of the readers time in describing their symptoms; those have already been sufficiently enumerated and pointed out by preceding writers.

My principal view is to recommend a Medicine, hitherto little known in Europe, but which, from its safety, and powerful effects when internally administered, and brought to the test of experience, will be found justly deserving a principal place in the Materia Medica.

The gentleman, to whom I have taken the liberty of dedicating this small Treatise, is requested to accept my sincere thanks for his politeness, and obliging attention in the perusal of it when in manuscript. The candor of his Remarks, and improvement it has received from the judicious alterations he was pleased to suggest, demand my warmest acknowledgment.

London, June 10th, 1784.

A PRACTICAL
T R E A T I S E
O N
C O W H A G E, &c.

I HAVE already signified in the Preface, that it is not my intention to enter into a prolix detail of the causes and symptoms of worms: It may not, however, be amiss in this place to enumerate the principal causes and effects produced in the human body by those destructive reptiles, for the information of such, who, not being of the medical profession, may nevertheless be inclined to make trial of the remedy here recommended: A remedy, perfectly safe in its exhibition, and which has been attended with the happiest effects after every thing else has failed,

B

WORMS

WORMS may be divided into three species.

1. The *Teres*, or long and round Worm which are most common.

2. The *Ascarides* which are smaller, and chiefly seated in the rectum.

3. The *Tania*, or *Tape-worm*, which is sometimes called also *Solium*, from a supposition that there is seldom more than one of the kind in the body; though others will have it to be rather a chain of many worms of the same species fastened to each other.--- However this be, the matter is not here worth farther discussion.

Many instances have been adduced, of other kinds of worms found in different parts of the human body; but the three species above enumerated are the most common.

The *Teres*, or long and round Worm, is found in the small intestines, particularly the jejunum, and sometimes in the stomach. The stomach, however, does not appear to be their natural place of residence; but being irritated, they are liable to be dislodged from thence, and not unfrequently thrown up by

by vomit. When these worms (as sometimes it happens) make their way into the cavity of the abdomen, the case is mortal.

C A U S E S.

The *Causes* of worms are various. A relaxed and weak stomach affords them a nidus, where they propagate, and are nourished.

Our food is full of worms, and their ova. It is supposed by many, that all liquors, even the blood itself, abound with their principia.

Among the chief causes—eating great quantities of crude vegetables, and green unripe fruit, may be considered.

Hence in the West Indies, it happens, that among the negroes, (whose diet consists chiefly of vegetables,) * complaints arising from worms, are much more fre-

* Plantanes—yams, cocco's, cassada,—Angola, or pigeon peas, and the maize, or Indian corn, constitute the principal part of the diet of negro slaves. The latter, of which they are remarkably fond, when just beginning to ripen, causes worms, more than any thing I know of.—Very little animal food comes to the share of a negro slave—and of this—only such as is of the most indigestible kind, as salt herrings, cured beef, pork, Newfoundland fish, and the like.

quent than amongst the white people; insomuch that it is very rare to see a negro-child without a swoln belly, and other symptoms of this disease.

S Y M P T O M S.

There is no appearance, which this complaint, in some constitutions, will not assume; insomuch, that an eminent practitioner in the West Indies frequently declared, that whenever he saw any uncommon and violent symptoms, not immediately to be accounted for, and which superstitious or ignorant people would be apt to attribute to witchcraft, he would without hesitation exhibit anthelmintics, and that in ninety-nine cases out of an hundred, he found himself right in his conjectures.

In general, it is not difficult to know when a patient is troubled with worms. A hard swelled belly, disagreeable breath—a particular heaviness, or languid, livid look, about the eyes, a swelling and paleness of the lips---and especially of the upper lip---an enlargement of the nostrils; itching of the nose, and an appetite, sometimes loathing
all

all manner of food, at other times, uncommonly voracious, are almost always concomitant and unerring symptoms of this disease.

Besides these, the face will be sometimes pale, at other times, *crimsoned* over with an universal flushing.

To these symptoms succeed mucous stools*, looseness---gripping pains in the abdomen, a dry cough, vomiting---grinding of the teeth in sleep, great thirst---frequent pains in the side, a listlessness and want of inclination to stir,---or take exercise---and a pulse, sometimes hard, sometimes weak and quick, but always unequal. When the disease is farther advanced, the mucous stools increase---cold sweats come on---convulsions, epileptic fits--palpitation of the heart, frequent faintings, loss of speech, hiccup---and finally, death itself.

C U R E.

Various have been the medicines exhibited for the expulsion and destruction of

* From the irritation of the intestines, their peristaltic motion will be increased, and the secretion of the mucus will consequently be in larger quantity.

these intestine enemies. Bitter purgatives, oily medicines, preparations of tin---the juices of plants celebrated for their anthelmintic qualities, have all had their turn, and all in their turns have failed. Even mercury itself has frequently been given, in almost all its various forms, without any other effect than injuring the constitution.

And here, as it is not improbable that, the war being at an end, the number of medical practitioners, migrating to the West Indies, will be daily increased ;---for the benefit of such, and of the owners of negroes in general, I will take the liberty of observing, that *mercury*, unless very cautiously given, and in very small quantities, is rank poison to the constitution of a negro. The many fatal effects I have seen, in the course of several years practice in the island of Jamaica, convince me of the truth of what I have here asserted.

Such practitioners, therefore, (and I have known such) who indiscriminately administer mercurial preparations to the negroes entrusted to their care, consult neither their own reputation, nor the interest of their employers, whose number of slaves is too

often lessened, and many useful, healthy negroes destroyed, by the too frequent, and rash exhibition, of that excellent, but dangerous mineral.---Nor are its pernicious effects confined to the sons and daughters of Africa.---White people often feel the ill consequences of an indiscreet use of it.---Mercury is to be used with much less freedom in warm, than in cold climates---and the same quantity, which shall not produce any sensible effect in Europe, will in the same constitution, within the torrid zone, operate in a powerful manner.

The effects which mercury has upon the blood, is well known to those who practise physic. It attenuates, and dissolves the fluids.

The blood of such negroes, as work hard in hot climates---take but little rest, and live mostly upon a vegetable diet, will, even in an healthy state, be found much thinner, and less disposed to coagulate, than that of white people. Mercurial medicines, therefore, are hurtful, by breaking down and destroying the texture of the blood, already too much dissolved, by heat, and the nature of their provisions.

In Jamaica, it is too common a custom to send a negro, that receives the slightest scratch, or has the least sore on the leg, or foot, to the hot-house*, where the
poor

* Upon plantations in the West Indies, the apartment appropriated for the use of the sick and lame negroes belonging to each respective plantation, is called, in Jamaica, the *hot-house*—in the other islands, with more propriety, the *sick-house*. I cannot say I ever saw above *ten* well contrived sick-houses in my life. *One* of the best that ever I saw, and what may well be considered as a pattern for others, is at Water Valley, in St. Mary's, (the north-side of the island of Jamaica) the estate of the learned and ingenious Doctor James Nasmyth, a gentleman to whom I am much obliged for many curious particulars relative to the medical properties of many of the Jamaica plants.

This improper, and absurd appellation, *Hot-house*, has been productive of more mischief, than many proprietors are aware of.

A house for the sick ought to be as cool, airy, and clean, in those hot climates, as possible ; but instead of this, the managers, or overseers, to whom the building of the Hot-house, as well as every other office belonging to a set of works, is too often entrusted, seem unwilling, that such a building should have its name for nothing ; and therefore take care that it shall be *literally* a *Hot house*, by building it closer, and with fewer windows, than any other house on the estate. Nay, I have actually seen Hot-houses without any other aperture for the admission of air or light, than the door ! Architects who build after such a fashion as this, must have taken their ideas from the black-hole at Calcutta.—What must the poor wretches suffer, who are locked up at nights, sometimes as many crammed together as the place will hold—in such infernal dungeons, under the notion of “ *getting them well*” of their different complaints !

And

poor wretch is immediately confined to the stocks, that the fore may not be enlarged by walking about; and there dosed, twice a day, with a solution of corrosive sublimate in rum, administered in a cup of the decoction of sarsaparilla, or lign. guaiacum.--- In a good habit, the confinement, and keeping the wound clean, will effect a cure; but though in more obstinate cases, alteratives *may* be, and certainly *are*, necessary; yet, the indiscriminate exhibition of Van Swieten's

And these absurdities will ever triumph over common sense, so long as overseers are permitted to be architects, whether they know any thing of the matter, or not.

It is not to be denied, that among overseers, are to be found many men of genius, men of a liberal education, and, in every respect, unexceptionable. But I must say, and I am sorry to say, that far the greater number are strangely deficient in points wherein they think themselves amply informed. Indeed, in points wherein it is absolutely necessary, they *ought* to be well informed.

I have known many people, who, though they had not a single idea abstracted from making the most of a sugar cane, set up, on being made overseers—for men of universal knowledge. A man of this stamp, as soon as he enters upon his office, becomes in a moment, like the Pope, *infallible*. He not only decides with authority upon all questions relative to the business of *plantership* and *sugar-making*, but, as if by inspiration, he commences architect, surveyor, doctor, grazier, distiller, and politician—cum multis aliis—and it most commonly happens, that he who would seem to know every thing, and be a proper judge of every thing, knows, in fact, nothing at all,

solution,

solution, as they call it, to every negro that has a little sore on his leg, does more harm than good. I have known many good constitutions much injured by its use, and dropfies brought on by those medicines that were intended at first to cure a sore leg.

In like manner, mercury administered with intent to kill worms has often brought on a worse disease; rheumatism---bone-ach, from taking cold---consumption, asthma---confirmed ascites---have but too often followed the injudicious use of that medicine.

If mercury be given at all for the expulsion of worms, the safest way of administering it has always appeared to me to be in small doses of Dimsdale's powder*---But even this is not always effectual. And it is very extraordinary, that where *Nature* has pointed out and supplied us with the noblest and safest anthelmintics, the preparations of *Art* should be substituted, and preferred, though inferior in virtue, and more hazardous in their consequences.

* Calomel & Pulv. e chel. Cancror. comp. aa gr. iij.
Tartar Emetic, gr. $\frac{1}{8}$ vel $\frac{1}{10}$.

Few or none of the European medicines are equal in efficacy to those vermifuges which the East and West Indies supply us with.

Of these, the *Oleum Ricini*, or Castor Oil, has its excellencies.—All oily medicines, it is true, are destructive to worms. This oil, therefore, AS AN OIL---not only kills them, but from its purgative quality, carries them off by stool.---When, however, the worms have attained strength and size, they elude the force of the oil, and remain unhurt.

The *Worm-grass* is highly commended by many, and is allowed a place among the first Anthelmintics by those who have been accustomed to give it. Its use principally obtains among the free black and Mulatto women of Jamaica, who make a livelihood by practising physic among those of their own colour, with the medicinal herbs which nature so abundantly bestows in that climate.

It is the *Anthelmia* of Doctor Browne, and the *Spigelia* of Linnæus. It is also the *Spigelia* ramis indivisis, foliis terminalibus, verticillatis, Buttneri.

The preparations of it are an infusion, decoction, and the clarified juice.

Doctor

Doctor Browne, who, in his *Natural History of Jamaica*, gives us the best methods of preparing it, speaks very highly in its praise. Those, to whom it is administered, are first affected, as if with a degree of intoxication. It then procures sleep almost as certainly, and in the same degree as opium; and the patients eyes, after the sleep is over, appear sparkling, and distended. However, the exhibition of it is not unattended with danger; a very little, too little will do no good, and excess in the dose, I have known productive of disagreeable effects.

The *Asclepias* *, which is the *Apocynum erectum*, folio oblongo, &c. of Sloane---from its emetic quality, called Bastard, or Wild Ipecacuanha, and by the negroes, Red-head, is a powerful vermifuge.

The usual way of administering it, is either in a decoction, or the expressed juice of the leaves. Of the former, half a pint is the usual dose to an adult, when intended as an emetic. In the latter form, from a

* *Asclepias erecta*, foliis angustis acuminatis, verticilliter ternatis, floribus umbellatis. Browne.

tea-spoonful to three table-spoonfuls may be given as an emetic according to the age, constitution, and strength of the patient. The expressed juice may also be made into a syrup with sugar.---I have known it to bring away worms (after operating as an emetic) from patients in whom there never appeared any symptoms of them. If there are any in the stomach, it certainly dislodges them. When the crude juice is to be administered, I would recommend an addition of an equal, or a double portion of lukewarm water with it, which makes it operate more gently, and likewise more effectually.

Browne says, the juice is a powerful astringent. I cannot say I ever knew an instance of its being astringent, and therefore imagine he must have taken his account, not from his own experience, but the report of others.

The bark of the *Bastard Cabbage-Tree* (hitherto, by Botanists, very imperfectly described, but which the ingenious Botanist and Ornithologist, Mr. Robins, of St. Mary's, Jamaica, has called *Geoffrea, Inermis*,) stands among the first, in the list of powerful vermifuges.

It

It is the bark of a tree, very frequently to be met with in the mountainous parts of Jamaica, which grows to a considerable height. The bark is of an ash colour, sometimes spotted with reddish, or iron coloured spots.---The outer thin bark, or epidermis, being peeled off, the inner bark appears, when dry, of a rusty iron colour, and its *interior* surface of a cineritious hue. Altogether, when stripped off the tree, and kept for use, it is not unlike the eleutheria, or cascarilla bark. The wood of the bastard cabbage-tree is exceedingly hard and durable, and much used for the purposes of building where strength and stability are required. The leaves are oblong, oval, smooth, and of a beautiful green colour, disposed in a pinnate form along the stem.

Of this tree, there are two sorts, the male, and the female. The bark of the female *only* is applied to the purposes of medicine. This latter, in the months of April, May, June, and July, appears most beautifully adorned with very large spikes of papilionaceous blossoms of a purple colour, which are succeeded by a fruit, of the shape, size, and appearance of a green walnut; being a dru-
pa,

pa, containing one oval kernel, inclosed in a hard, smooth, thin shell---*.

* Doctor Browne has given a very imperfect account of this tree, in his Natural History of Jamaica.—He has not described it in its proper place, but refers it to his appendix, which treats only “*of those vegetables whose characters are not sufficiently known.*”—Why he should call it a *Spigelia*, I cannot conceive, unless it was because he was fond of altering Linnæus’s names,—and as he had chosen to give Linnæus’s *Spigelia*, the worm-grass, his new name of *Anthelmia*, (or, as one of his editions has it, “*Anthelmenthia*,”) he thought proper to transfer the name of *Spigelia* to this tree, which has not the least resemblance of a *Spigelia*.

He seems totally ignorant to what class and order it belongs, as also of the characters of the flower, which he leaves undescribed. I have endeavoured to supply his deficiencies, by adding that part of the underwritten description which is printed in *Italics*—and which, though not strictly conformable to the rules of Botany, may nevertheless be found sufficient to convey an idea of the flower.

SPIGELIA foliis oblongis nitidis pinnatis, cortice glabro cinereo.

Flores in aliis masculini, in aliis fœminini dicuntur.

MAS desideratur.

FœM. Perianthium? *Monophyllum, campanulatum, quinque-crenatum, purpurascens.*

Corolla? *Papilionacea: Vexillum amplum, cordato-ovatum; Alæ oblongæ; Carina bipetala.*

Stamina? *DIADELPHIA: Filamenta decem, quorum novem infernè connata, supernè, libera sunt. Decimum verò simplex, à cæteris sejunctum exstat. Antheræ minimæ, oblongæ.*

Pistillum. GERMEN ovatum. STYLUS brevis attenuatus, *aduncus, subulatus.* STIGMA acutum.

Pericarpium. DRUPA carnosâ, firma, ovata, lineâ longitudinali lateraliter notata, unilocularis, monospermis.

Semen. NUCLEUS bilobus, ovatus, membranâ tenui obvolutus, & nauco ligneo glabro, lineâ longitudinali lateraliter notato, tectus.

The

The most usual way of exhibiting this bark, is in decoction. About an ounce, or an ounce and a half, grossly powdered, may be boiled in a quart of water, until it is reduced to half a pint. By this time, the decoction becomes very high coloured, like old Madeira wine, or porter; but if it should not then attain that colour, (which is generally looked on as the criterion of its being properly prepared) the boiling must be continued longer; for in a strong decoction only the efficacy lies.

The taste of this decoction is not unpalatable, nor is it from any bitterness that the bark derives its efficacy, as some have imagined; but from a specific quality, powerfully noxious to all kinds of worms bred in the human body.

The dose to children, is from a table spoonful, to a small wine-glass full. Adults of a strong constitution may venture on a large wine-glass full. Of this decoction, a dose proportionable to the age and constitution of the patient is to be given, either simply, or sweetened with honey, sugar, or molasses, for three or four mornings successively.

A dose of some medicine of the purgative kind should be then interposed—such as jalap—rhubarb—*sal. glaub.* or what is still better, as more immediately answering the intention, an ounce of *oleum ricini*.

It is surprizing to see what effects will sometimes follow the exhibition of these medicines. Large knots of worms, amounting to some hundreds, have been voided, and the patient, from being reduced to the last extremity, has recovered health and vigour.

But if, as sometimes happens, the first three or four doses of the decoction should not have the desired effect, the medicine must be continued for a few days longer, omitting it on those mornings on which the purge is given; and it rarely happens, that so many as eight or nine doses are taken, without producing a favourable event.

Bad consequences have been said to arise from the too liberal use of this medicine. For my own part, I never found any; and I think I have tried it in as many different forms, and on as many different subjects, as most of the medical profession. It is true, I have known an over-dose of it oc-

caſion great ſickneſs at ſtomach, and vomiting. But there are very few, even of the moſt innocent and palatable medicines, that are not attended with peculiar inconveniencies, when taken in too large a doſe.

Much has been ſaid about the particular time for gathering, and likewise, for adminiſtering the cabbage-tree bark.

It is a vulgar error, held by many, that the bark is not effectual, unleſs it be taken from the tree when the moon is at full; others tell us, that its *effects* are only certain at the ſame ſeaſon, and no other.

I will not preſume to diſpute how far the lunar influence may extend its power over the juices of vegetables; or whether there is in fact any material difference between the circulating fluids of a plant, at this time, and at other ſeaſons. I muſt, however, beg leave to differ from thoſe who hold this opinion, as to the bark here mentioned, becauſe I have found it to answer all my purpoſes, although ſtripped from the tree when the moon was not near the full; and to be in all reſpects as effectual, when adminiſtered at any other time of
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the moon's age, as at the period so much insisted on.

Besides the decoction, this bark has been found efficacious, when taken in substance, finely powdered.—From five grains to a scruple, may with safety be ventured on; and even farther. Combined with jalap, it operates with greater certainty of success than when exhibited by itself.

Some years ago, the small-pox happening to make its appearance in that part of the island of Jamaica where I resided, it was thought expedient on that occasion to make preparations for inoculating all persons, both white and black, that had not had this disorder.

Those white people, whom I attended, and the negroes belonging to the different estates and settlements which I had the care of, were forthwith put under a preparatory regimen.

The antiphlogistic method, recommended by Baron Dimsdale, as being the most applicable to the climate—(as well as the most rational, in *any* climate) is of course the most universally adopted in that part of the world.

The mercurial preparation, given over night, I did not strictly adhere to. To the strongest negroes, the quantity of calomel given for a single dose, never exceeded three grains.---To some, I judged it altogether improper to give any.

But as the very small annual sum allowed to surgeons, for the care of negroes in the country parts, will not admit of the exhibition of very expensive medicines, I was reduced to the necessity of setting my invention to work, to find out a cheap purgative, that should at the same time be safe and efficacious.

Even Epsom, and Glauber's salts, were too expensive; and so was jalap.

The four o'clock-flower (*Mirabilis*) grew in great plenty about the place. This is the *jalapium officinale*; and the roots of this, sliced and dried, were not to be distinguished from the common jalap of the shops.

But whether from the difference of climate, or soil, the Jamaica jalap has not the same effect as that which is brought to us from South America. I was obliged to give it in double quantity; and even then

then it did not always take effect. The largeness of the dose rendered it disgusting.

At last, I determined to try how far the cabbage-bark, combined with a small quantity of the true jalap, might assist its operation; or rather, what effects might be the result of such a combination. I gave ten grains of jalap only, with ten grains of the bark, in water, to an adult, of a robust constitution. It succeeded beyond my expectation as a purgative. I made a few more trials with equal success.

After this, I prepared a large quantity of equal parts of jalap and cabbage-tree-bark, as a common purging powder for negroes of all denominations, which I found to answer very well in doses of half a drachm; and in some few cases wherein it did not operate so well, two or three grains of gamboge, thrown in, to quicken its operation, produced the desired effect.

This experiment convinced me of two facts. First, the universality of the complaint of worms among negroes; for, of *two hundred and fifty-four* negroes, whom I had then under preparation, *two hundred and sixteen* took the cabbage-bark; of

whom, *one hundred and ninety-three* passed worms, after taking the powder two or three times. Among these, I do not reckon several new negroes, and others that I could expect no exact account from. The remaining number, to whom I *did not* give the bark, were either such as from their constitution required other treatment, or else belonged to persons who supplied their own medicines.

From that time I constantly adhered to the use of the cabbage-bark, and in the subsequent course of my practice, made the decoction of that bark the common vehicle for all medicines of the aperient kind, such as jalap, pulv rhei, magnesia, &c. both to white patients and negroes, whenever particular circumstances did not forbid it; nor did I ever perceive any ill consequences arise from so indiscriminate a use of this medicine.

I was now desirous of examining how far a spirituous tincture of it might be of use; and infused four ounces of the bark grossly powdered, in two pints of rum, which I digested in the heat of the sun for six days.

Of

Of this tincture I gave a small wine-glass full, instead of a common dram, for five or six mornings running, by way of gratuity, to two or three lusty fellows that I knew to be subject to worms; but though they liked the dram, and came regularly for it, I never could find whether it had the desired effect.

I drew a very small quantity of extract from a pound of the gross powder boiled in a gallon of water. This I gave in the quantity of a grain---then two grains, and by degrees as far as five, to three subjects I had chosen; but I found no remarkable effects from it, prepared in this manner. One of those who took it was seized with a violent sickness at the stomach, but whether it arose from the effects of the extract, or from some other cause, I had not leisure to examine.

However, as I had already two very good and simple preparations---the *decoction*---and *powder*, I desisted from all farther enquiries into the virtues of the more operose preparations.

But notwithstanding I had so much reason to be satisfied of the *general* efficacy of the

two former preparations of this bark, I found my hopes disappointed in two or three very obstinate cases, wherein after almost every other anthelmintic, both native and European, had been tried in vain, I expected to derive very considerable advantages from a timely exhibition of the cabbage-tree bark.

The ill success of the bark in those cases, induced me to make some enquiry concerning a medicine which I had heard of, as being successfully given, in many parts, to all patients afflicted with complaints arising, or supposed to arise, from worms; and that, not only by regular practitioners, but even by ignorant negroes, at random, and without any just proportion in the dose.

This was the STIZOLOBIUM, or COWHAGE.

Satisfied, as I said before, of the general efficacy of the cabbage-tree-bark, I had never given myself the trouble to make enquiry about any other more powerful vermifuge; nor did I think that there *could* be one more powerful, until the death of a negro girl, (See Case II.) evidently occasioned,

sioned, as appeared upon my opening her, from vast numbers of worms lodged in the small intestines, convinced me that I had not done my duty, and excited me to push my enquiries in search of a more efficacious medicine still farther.

I had heard so much of the *cowhage*, or *cowitch*, that I resolved to make trial of it.

But the different modes of exhibiting it, were as various as the persons who took upon them that office. One administered it in melasses. Castor oil was the favourite vehicle of a second; and a third insisted, that it was of no service unless mixed with honey.

The greater number agreed in giving melasses the preference; but there was even among these, a considerable disagreement with regard to the proportions to be observed in the mixture. While some cautiously put but two pods of the cowhage into a quart of melasses, others boldly stirred up two dozen in a like quantity. Some again would have six pods to be sufficient; and others imagined that some secret virtue, or charm was to be expected, from having
the

the number neither greater, nor less, than exactly *nine*.

By some, the setæ contained on the outside of a single pod, mixed with one or two table-spoonsful of syrup, honey, or melasses, was given for a single dose, without distinction, to young and old. By others, a quantity of each ingredient was mixed together, without bearing any exact proportion to each other, farther than was merely sufficient to bring the composition to the consistence of an electuary; and one, two, or three tea-spoonsful given as a dose to children, and one, and sometimes two table-spoonsful to adults.

As far as I could learn, however different the compositions and proportions of the ingredients, the effects were found to be pretty much the same in all ages, sexes, and constitutions.

I considered, that the wonderful efficacy so generally attributed to the cowhage, could not be supposed to arise from any specific medicinal quality residing in it, so much as from the sharpness and elasticity of the setæ, with which the pods are covered, which take the same effect on worms, as they

they do when applied to our skin. The setæ piercing, vellicating, and tormenting them in such a manner, as obliges them to let go their hold; acting like so many needles, as may be plainly demonstrated by viewing the setæ through a microscope; which shews them to be a number of long spiculæ, needle-shaped, hollow, transparent, and armed with points, exquisitely sharp and fine.

The idea, that their action is merely mechanical, is supported by the observations of several very judicious enquirers, who have made trial of the cowhage, particularly Doctor Leake; who, in his *Lectures on the theory and practice of midwifery, and diseases incident to children*, enumerates the cowhage among the most effectual of those remedies, given to children, for worms. He supposes, that it acts in the same manner as hair, cut fine, and given with the same intention---but much more effectually, because of its inflexibility, and the exquisite, and almost inconceivable sharpness of its points.

Curious to know how far the application of the setæ to the external coats of worms
bred

bred in the human body would affect those animals when expelled from the body, I waited not long before I had an opportunity of making the experiment.

A calabash full of very large ones, of the *teres* kind, in full vigour, voided by a poor emaciated patient, was brought to me. Among these, I sprinkled some of the *setæ*. For a minute or two, no visible effect was produced; but in a little time they began to writhe and twist themselves in an unusual manner, and exhibited evident signs of extreme torture. I took one of the worms, and viewing it through a magnifying glass, perceived that several of the *setæ* had pierced very deep, and others were sticking loosely in various parts of its body, but that none of the *spiculæ*, which had once entered into the skin, dropped off.

Convinced in a short time, both from what I had heard, and from my own experiments, on the internal exhibition of cowitch, of the safety and efficacy of this incomparable medicine, I laid aside the cabbage-tree-bark, and for several years have used no other vermifuge than this.

My

My usual way of preparing and administering it, has been in the form of an electuary, with honey, melasses, or syrup, of a thick consistence, without observing any very exact proportion of the quantity of setæ.

Of this electuary, a tea-spoonful is a sufficient dose to young children ; and to adults, one, or even two table-spoonful in a morning fasting. This may be repeated for two or three mornings ; but in general, there is seldom occasion to go beyond the third dose ; and a gentle purge of some kind or other, commonly completes the cure for the time.

The above-mentioned vehicles, (honey, &c.) blunt the spiculæ, and prevent their injuring the fauces and œsophagus ; and are preferable to an oily vehicle, because, being diluted in the stomach, by the succus gastricus, the spiculæ are set free, and, regaining their elasticity, enter into action ; whereas oil, being not easily soluble by the secreted fluids of the stomach, still continues to sheath the points of these little spiculæ, and carries them through that viscus, and the intestines, without setting them free ; and by its lubricating quality, prevents them from taking effect, or injuring the worms they are sent

sent to destroy. Oil is, therefore, an improper vehicle; and this will appear still plainer, if we consider, that to defend our hands from the troublesome effects of the setæ, when handling cowitch, it is necessary to oil the fingers.

No anatomist will ask, *Whether these spiculæ may not be injurious to the coats of the stomach and intestines?* But, as I have been asked this question by many people, who, ignorant of the structure of the intestines, and the nature of this mucus, were apprehensive of danger---and therefore afraid to venture on the medicine; it may not be amiss to remark, for the satisfaction of such as are in doubt concerning that point, that if a little honey or treacle is sufficient to defend the tender nervous papilli of the mouth and fauces, from the troublesome effects of the setæ, (which, when applied externally to any part of our skin, cause a most tormenting and intolerable itching, sometimes almost even to madness) certainly the mucus of the stomach and intestines will be very sufficient to defend those parts from the irritation of the setæ.

Never-

Nevertheless, however inoffensive in general the Cowhage may be, reason will dictate to us, that where the mucus of the stomach and intestines is abraded, or lessened, from dysentery, cholera-morbus, or any other cause whatsoever; or where there is a tendency towards inflammation in any part of the intestinal canal, the exhibition of this medicine cannot be unattended with danger.

I shall not go so far as to say, in praise of this my favourite medicine, that I *never* knew it to fail; but I will say, that I have experienced more certain good effects, and fewer ill consequences, than from any other medicine, given with the same intention; inasmuch, that I have, since I first began to exhibit the Cowhage, had no occasion to look for any other vermifuge.

The wonderful and salutary effects which I saw from the use of this medicine, both in my own practice, and that of others, among whom it obtained the same universality, and likewise among those, who, though not in the medical line, freely administered it, both to their own children, and their negroes, without any dread of ill consequences, induced

duced me, from the very first, to commit to paper my observations relative to the exhibition and effects of Cowhage; hoping that it might be no unacceptable service to the community, to introduce into general practice in England, a medicine, which in the West Indies, is of such well known and indisputable efficacy. I have therefore subjoined, by way of appendix, a few of the most remarkable cases, which have fallen under my cognizance, as a farther illustration of the efficacy of this medicine; and shall, for the present, beg leave to give the remainder of this account of the Cowhage, or Cow-itch, in the words of those gentlemen who have obliged the world with an accurate description of this plant, and its uses, taken from the second volume of the Medical Commentaries.

Extract of a letter from Mr. Thomas Cochrane, surgeon, at Nevis, to Mr. John Balfour, surgeon, in Edinburgh. Concerning the use of Cowhage, as an anthelmintic.

From the Medical Commentaries, Vol.

II. Part I. No. IV. Page 82.

“ There is a medicine which is much
 “ used here against worms. Planters give
 “ it

“ it to the negroes with great success ; and I
 “ have ordered it myself both to children
 “ and adults with very certain good effects.
 “ The plant is here called Cowhage, and is
 “ furnished with the *siliqua hirsuta* of Lin-
 “ næus. The parts which are used are the
 “ hairy spiculæ, scraped from the pods,
 “ and mixed with syrup. They are sup-
 “ posed to act by promoting the peristaltic
 “ motion of the guts, and pricking the
 “ worms. The dose is not exactly limited ;
 “ but the spiculæ obtained from a single
 “ pod, are esteemed a sufficient dose for a
 “ child of seven or eight years old.

“ This remedy is perfectly safe and in-
 “ nocent, although it occasions some unea-
 “ siness upon being first taken*. I have
 “ seen large clusters of worms come away
 “ from patients on the first dose. It is given
 “ at bed-time, and a purge in the morning.
 “ This practice is repeated after an interval

* Not if the syrup be thick enough. But if the vehi-
 cle be too thin, or in a state of fermentation, the setæ
 occasion a tickling in the fauces, and are separated
 from their vehicle by the action of the tongue, and spit
 out.

“ of two days ; and it is seldom necessary
“ to give more than a second dose.”

* * * * *

‘ Our readers may remember, that Cow-
‘ hage has been mentioned as an anthel-
‘ mintic by Doctor M'Bride, in his intro-
‘ duction to the Theory and Practice of
‘ Physic, and by some other authors. But
‘ we have seen no description of the plant.
‘ There is a good specimen of it at present
‘ growing in the Botanic Garden at Edin-
‘ burgh. It has been but lately brought
‘ there, and is not in that state which is
‘ most favourable for investigation. We
‘ cannot, therefore, give such a description
‘ of it as could be of any use.’ *Ibid.*
‘ pag. 83.

* * * * *

Extract from the same volume, page 202.

‘ In a former number, we gave an account
‘ of the good effects obtained, from the use of
‘ Cowhage, or Cowitch, as an anthelmintic.
‘ This plant is also a native of the East In-
‘ dies ; and the following accurate descrip-
‘ tion of it was lately transmitted by Mr.

James

‘ James Kerr, at Patna, to the Professors
‘ of Medicine in Edinburgh.’

‘ *Nomen.* By Europeans it is called Cow-
‘ hage, or Cowitch. By many writers, a
‘ *Phaseolus*. By the natives of Bengal,
‘ Cadjuct, from the itching and scratching
‘ it produces.

‘ *Classis.* According to the system of the
‘ incomparable Linnæus, it stands in his
‘ seventeenth class, *DIADELPHIA*, and
‘ fourth order, *DECANDRIA*.

‘ *Genus.* The flowers of this herbaceous
‘ plant differ very essentially from the *Pha-*
‘ *seolus*. They have Linnæus’s distinguish-
‘ ing mark of a *Lupinus*; but in other
‘ parts of the flower, and habit of the
‘ plant, the difference is very considerable.
‘ From the remarkable length of the alæ
‘ alone, I imagine it is sufficiently distin-
‘ guished from every other flower, and pro-
‘ bably it deserves to constitute a new
‘ genus*.

“ *Radix.*

* For which reason, it may not be improper to retain the name which I have adopted, being that which Doctor Browne, in his *Natural History of Jamaica*, has distinguished it by. He calls it *STIZOLOBIUM*, spicis multifloribus pendentibus alaribus, floribus ternatis, purpu-

‘ *Radix*. The root is fibrous.

‘ *Truncus*. The stem is herbaceous,
‘ equal, voluble, climbing, cylindrical, and
‘ naked; diverging into many branches,
‘ and rising to a great height, when properly
‘ supported.

‘ *Folia*. The leaves are alternate, and tri-
‘ lobate, rising from the stem and branches
‘ about the distance of twelve inches from
‘ each other. The foot-stalk is cylindrical;
‘ from six to fourteen inches long. The
‘ lateral lobes are obliquely ovate, obtuse,
‘ entire, and nervous, with short petioles,
‘ and two very small stipulæ between the
‘ lobes. The middle lobe is smaller, ovate,

reis: and thus characterizes the parts of fructification.

PERIANTHIUM. Monophyllum, tubulato-campanulatum, subventricosè ringens; Labium superius, majus, obtusè emarginatum, reflectens—Inferius, tridentatum, suberectum.

COROLLA Leguminosa. *Carina* bipetala, petalis oblongis, ad apices agglutinatis.

STAMINA. *Filamenta* decem, infernè connata, supernè, libera. *Antheræ* ovatæ, alternè submonstrosæ, oblonge tumentes.

PISTILLUM. *Germen* oblongum. *Stylus* subulatus, staminibus longior; *stigma* simplex.

PERICARPIUM. Legumen oblongum, sub-æquale; ad utrumque extremum adversè subarcuatum; hirtis pungentibus obsitum, seminibus quatuor vel quinque refertum reniformibus.

‘ both

‘ both ends pointed, with the petiole much
 ‘ longer, and two small subulated stipulæ.

‘ *Flores.* From the axilla of the leaf,
 ‘ descends a pendulous solitary spike, from
 ‘ six to fourteen inches long, covered with
 ‘ long, blood-coloured, papilionaceous flow-
 ‘ ers, rising by threes in a double alternate
 ‘ manner, from small, fleshy protuberances,
 ‘ each of which is a short pedunculus of
 ‘ three flowers. The partial foot-stalks are
 ‘ scarce half an inch long. The flowers
 ‘ upon the apex of the spike are first in
 ‘ bloom.

‘ *Calyx.* The involucre to every three
 ‘ flowers of the spike, consists of three
 ‘ small, hairy, ciliated, deciduous leaves.
 ‘ The proper empalement is of one bilabiate
 ‘ leaf, with a bellied, gibbose, persisting
 ‘ tube. The upper lip, ovate, entire, and
 ‘ pressed a little backward by the vexillum.
 ‘ The under lip is trifid, acute, and more
 ‘ erect.

‘ *Corolla.* a. VEXILLUM. The standard
 ‘ is ovate, concave, gently reclinate, and
 ‘ emarginate. It is about double the length
 ‘ of the empalement.

D 3

‘ b. ALÆ.

‘ b. ALÆ. The wings are of an oblong,
 ‘ lanceolate shape, double the length of the
 ‘ standard, and both sides connivent, with
 ‘ short, furrowed, nectariferous tongues.

‘ c. CARINA. The keel is falcate, acu-
 ‘ minate, compressed, closely shut, very
 ‘ narrow, and scarce longer than the wings,
 ‘ with a curved, distinct apex.

‘ *Stamina*. The filaments are diadelphous,
 ‘ nine united, and one separate; equal in
 ‘ length, and distinct above. The single
 ‘ filament, and four others, terminate in
 ‘ thick truncated points, having orbicular
 ‘ antheræ inserted into them by very short
 ‘ necks. Alternate with these are five other
 ‘ filaments, much more slender, and of a
 ‘ subulate shape, having oblong and larger
 ‘ antheræ. When the flower is in perfection,
 ‘ the filaments extricate themselves from the
 ‘ keel, by an elastic spring fly upwards, and
 ‘ press upon the standard.

‘ *Nectarium*. There is a small tubular
 ‘ nectarium with ten obtuse points, incir-
 ‘ cling the pedicle of the germen.

‘ *Pistillum*. The (a) GERMEN is cylin-
 ‘ drical, hairy, and almost the length of the
 ‘ empalement. The (b) STYLE is filiform,
 ‘ hairy,

‘ hairy, and as long as the filaments. The

‘ (c) STIGMA is globular and small.

‘ *Pericarpium*. The fruit is a leguminous,
‘ coriaceous pod, four or five inches long,
‘ crooked as the letter *f*, and densely co-
‘ vered with sharp hairs, which penetrate
‘ the skin, and cause great itching.

‘ *Semina*. The seeds are five or six in num-
‘ ber, nearly of the shape and size of a small
‘ bean, with the hilum near the middle of
‘ the seed.

‘ *Locus & qualitas*. It will grow in any
‘ soil; but it is generally eradicated from
‘ all cultivated grounds, on account of the
‘ hairs flying with the winds, and torment-
‘ ing every animal they chance to touch.
‘ If it were not for this mischievous quality,
‘ the beautiful spikes of red flowers would
‘ deserve a place in the best gardens.

‘ *Tempus*. It flowers in the cool months,
‘ from September to March*, according to
‘ the situation.

* This is to be understood of the *East* Indies, from whence the above account is transmitted. In Jamaica, it flowers at different times, in different places, but most commonly from March to November.

‘ From this accurate description, it ap-
 ‘ pears, that the Cowhage is the *dolichos pru-*
 ‘ *riens* of Linnæus. Mr. Kerr has said no-
 ‘ thing with regard to its medicinal virtues.
 ‘ But in confirmation of Mr. Cochrane’s ac-
 ‘ count, we shall here present our rea-
 ‘ ders with the testimony given concerning it
 ‘ by Mr. Bancroft, in his essay on the Natu-
 ‘ ral History of Guiana in South America,
 ‘ a work published at London some years
 ‘ ago.

‘ After mentioning the frequency of disor-
 ‘ ders arising from worms in that part of the
 ‘ world, and assigning some reasons for it, he
 ‘ adds, “ But from whatever cause these
 “ worms are produced, their number is so
 “ great, that the usual remedies are very
 “ insufficient for their destruction; for which
 “ reason the planters in general have recourse
 “ to the Cowitch, for that purpose. From
 “ whence its use was first suggested, I am
 “ uncertain; BUT ITS EFFICACY IS IN-
 “ DISPUTABLE. The part used, is the
 “ setaceous, hairy substance, growing on the
 “ outside of the pod, which is scraped off,
 “ and mixed with common syrup, or mo-
 “ lasses, to the consistence of a thin elec-
 “ tuary,

“ tuary, of which a teaspoonful to a child
 “ of two or three years old, and double the
 “ quantity to an adult, is given in the morn-
 “ ing fasting, and repeated the two succeed-
 “ ing mornings ; after which, a dose of rhu-
 “ barb is usually subjoined.

“ This is the empirical practice of
 “ planters, who usually once in three or
 “ four months, exhibit the Cowitch in this
 “ manner to their slaves in general ; but
 “ especially to all their children without
 “ distinction ; and in this manner I have
 “ seen it given to hundreds, from one year
 “ old and upwards, with the most happy
 “ success *. The patients, after the second
 “ dose, usually discharged an incredible
 “ number of worms, even to the amount of
 “ more than twenty at a time ; so that the
 “ stools consisted of little else than these
 “ animals. But though these were indis-
 “ putable proofs of its efficacy, I was far
 “ from being convinced of its safety. I

* It was my constant practice while in Jamaica, to have all the children of the estates and settlements, that I had the care of, from the youngest infant, to those of twelve years old, brought to me once in two months, to all of whom, without exception, I gave the cabbage-bark, and latterly, the Cowhage, for three mornings, whether they had symptoms of worms, or not.

“ observed,

“ observed, that the substance given, con-
 “ sisted of an assemblage of spiculæ ex-
 “ quisitely fine, and so acutely pointed, that
 “ when applied to the skin, they excited an
 “ intolerable itching, and even inflamma-
 “ tion, from whence I apprehended dan-
 “ gerous consequences from their contact
 “ with the coats of the stomach and intes-
 “ tines. Indeed, when mixed into an elec-
 “ tuary, in the manner in which they are
 “ given, their elasticity is so impaired, that
 “ they do not produce the same sensible irri-
 “ tation; but yet I could conceive no other
 “ quality, on which their efficacy depended;
 “ especially after I had prepared both a
 “ tincture and decoction from the Cowitch,
 “ and given them to worm patients, without
 “ any sensible advantage. Influenced by
 “ these suggestions, I particularly examined
 “ the state and condition of all such pa-
 “ tients as I knew had taken the Cowitch;
 “ and yet, can with the greatest truth de-
 “ clare, that, though prejudiced to its dis-
 “ advantage, I was never able, either by my
 “ own observation, or a diligent enquiry, to
 “ discover a single instance of any ill conse-
 “ quence resulting from its use, which has
 been

“ been so extensive, that several thousands
 “ must have taken it; and as no ill effects
 “ have been observed, I think, not only its
 “ efficacy, but SAFETY, are sufficiently
 “ EVINCED, *to entitle it to general use*;
 “ especially when we reflect on the uncer-
 “ tainty, and even danger, which attends
 “ other vermifuges. It is to be observed,
 “ that this remedy is particularly designed
 “ against the *long round worm*: Whether it
 “ is equally deleterious to the ascarides, or
 “ whether it has ever been used against
 “ them, I am uncertain*.”

* * * * *

I shall here subjoin a letter which I received from Mr. Neil Stewart, surgeon, in Jamaica, relative to the success of the Cowhage in his practice, as a farther confirmation of its utility and safety.

“ *Hope Estate, Liguanea, Aug. 9, 1782.*

“ My good Friend,

“ In compliance with your request, that
 “ I would give you my sentiments, and re-

* When we consider the nature of its operation, and that it is carried through the whole length of the intestinal canal, without suffering any alteration, I think there can be no sort of doubt of its being equally troublesome to every species of worm.

com-

“ commendation of the Cowitch, in writ-
 “ ing, I now sit down to give you a history
 “ of it; but must premise, that you can
 “ expect no more than I have already so often
 “ assured you of, *vivâ voce*:—which is,
 “ that the Cowitch, as a vermifuge, has not
 “ its equal in the world, either for the cer-
 “ tainty of its effects, or its perfect inno-
 “ cence. Too much cannot be said in the
 “ praise of that excellent medicine. I have,
 “ for my own part, given it for these ten
 “ years past, in all sorts of worm cases, both
 “ to old and to young; and with such good
 “ success, that I have never had occasion to
 “ look for any other anthelmintic. I have
 “ totally discarded the useless æthiops mi-
 “ neral: the uncertain crude mercury, and
 “ the still more uncertain, and less innocent
 “ preparations of it; such as calomel, cor-
 “ rosive sublimate, and so forth; and in
 “ short, all other medicines given with the
 “ same intention, except cabbage-tree-bark;
 “ and even *that* is not so great a favourite
 “ of mine, as it formerly used to be; not
 “ that I have any reason to find fault with
 “ it, but only because I find the Cowitch
 “ to answer every purpose I can want. I
 “ have

“ have given it even to tender and delicate
 “ white children under one year old,—with-
 “ out any ill consequences. On the con-
 “ trary, it has frequently brought away
 “ worms from them, even at so young an
 “ age. Every body, that gives it with-
 “ out advice, has a different way of pre-
 “ paring it; but the manner in which
 “ it is most commonly prepared, and the
 “ manner in which I myself order it, is
 “ to throw a dozen or two of ripe pods
 “ into a calabash, or common quart punch-
 “ bowl, full of melasses, and stir all to-
 “ gether until the hairs or spiculæ are
 “ taken clear off the pod, and well mixed
 “ in the melasses. The pods, being useless,
 “ are then thrown away.

“ Of this mixture, I order the hot-house
 “ man on every estate, to give all the little
 “ children, without distinction, a table
 “ spoonful for three mornings running,
 “ once a month; and not only to the chil-
 “ dren, but if any of the grown negroes
 “ are suspected to have worms, it is like-
 “ wise given to *them*, but in larger quan-
 “ tity: and it is inconceivable to one who
 “ has

“ has not known the good effects of Cow-
 “ itch, what wonderful success it has in ex-
 “ pelling every species of worms ; and I can
 “ safely aver, I never saw any ill conse-
 “ quences, or had any complaints, from
 “ those for whom I have prescribed it,
 “ or recommended it to. However, I
 “ would not think it adviseable to be
 “ given where there might be any disorder
 “ tending towards inflammation in any part
 “ of the alimentary canal, or where the na-
 “ tural mucus is defective.

“ I agree with you, in supposing, that the
 “ Cowitch acts only mechanically, in the
 “ same manner as cut hair would do, and
 “ from no intrinsic virtue ; because a de-
 “ coction of it is of no manner of use.

“ I must desire you particularly to take
 “ notice, that it is, and always has been my
 “ practice, to premise an emetic, where it
 “ can be done with propriety, previous to
 “ entering upon the Cowitch. I have often
 “ found the good effects of it, which in-
 “ duces me to continue it. A gentle dose
 “ of ipecacuanha, or tartar emetic, clears
 “ the stomach of matters which might im-

“ pede the action of the Cowitch ; and to
 “ children, a little oxymel of squills, will
 “ answer the purpose ; but some of the
 “ Creoles, who seldom use an European
 “ medicine when they can find an apo-
 “ thecary’s shop in the bushes, never use
 “ any emetic for themselves or their ne-
 “ groes, but the wild ipecacuanha, or red-
 “ head.

“ I have received the thanks of several
 “ ladies in and about Liguanea, and the
 “ mountains—and in the town of Kingston
 “ also—who have used the Cowitch, from
 “ my recommendation—both for their own
 “ children, and for their negroes. They
 “ are all lavish in praise of its virtues.
 “ In short, I think it may be looked on as
 “ a more certain specific in worm com-
 “ plaints than the Peruvian bark in the
 “ cure of intermittents.

“ I am, &c. &c.

“ Your’s affectionately,

“ NEIL STEWART.”

IT

IT now remains, that I should mention the manner of preparing this medicine, which is so exceedingly troublesome, as to deter many from handling it that would have been glad to have made experiments with it.

Every one that knows what *Cowitch* is, must be sensible, that if the least particle of it comes in contact with the skin, it causes a most intolerable itching, and sometimes even a slight degree of inflammation, where it fixes. A single bristle of it, so small as to be invisible to the naked eye, is sufficient to cause this inconvenience for a while, but it soon goes off.

As the setæ are so very light, that the least breath of air is sufficient to blow them off the ripe pods, and disperse them about a room, the best way will be to prepare them in a close room, where no wind can enter.

The method I usually followed when I had a large quantity to prepare at once, was first to take the number of pods I wanted, with a pair of tongs, or forceps, or with my fingers very well oiled; and put them into the vessel I intended to mix them in. I then gently covered them all over with the quantity

tity of melaffes intended for them, and with a ftick or spatula, ftirred all together until the pods were ftripped of their fetæ. The pods were then taken out, and thrown away.

But this is at beft but a clumsy method of preparing it. It may do very well for hot-houfe practice in the Weft Indies, where Cowhage grows in plenty. However, as there muft be by fuch means, a great deal of wafte, efpecially if the pods be not quite ripe (for unlefs they are, the fetæ do not fo readily come off) it will be more eligible, in *this* part of the world, to proceed with a little more œconomy.

When a fmall quantity is to be prepared, the beft way will be, firft to oil your fingers, which will defend them from the irritation of fuch fpiculæ as come off, in handling the pods—for, take what care you will, the hairs or fpiculæ are fo light, that they fly about and torment the fkin wherever they come in contact with it, unoiled. With your fingers, thus defended, therefore, take the pods, one by one, and dipping each into a cup of water, (ftill to prevent the fetæ from flying) with a knife or spatula, fcraper off as

E

much

much of them as you can, while wet, until you have obtained the quantity required for making a linctus, or thin electuary, with syrup, honey, or treacle.

Accident led me to a method of separating the fetæ from the pod, more effectually, and with less waste, than I could otherwise have devised.

Having had occasion to travel in a stage coach from Lancaster to Liverpool, I packed up a small box, which might contain about half a peck of this Cowhage, intended as a present to a particular friend in the medical line.

On opening the box, at my journey's end, I was not a little surprized to find the pods divested of their fetæ, so effectually, that a child might have handled them without any danger of inconvenience. The fetæ I found all together in a corner of the box.

I attributed this separation to the jolting which the box underwent in the boot of the coach; and supposing that the same effect might be produced from agitating the Cowhage in a box, I tried the
 3 experiment;

experiment ; but after several hours agitation, although the purpose was in some degree answered, yet the pods were not stripped so entirely bare as in the former instance ; and some that had not come to perfect maturity, lost few or none of their setæ.

I once read of a gentleman, who, after tying a phial of quicksilver to the arms of a windmill, and trying various other methods of reducing quicksilver to a powder, *per se*, found none so effectual as sending it a long journey as far as York, by the stage coach.—On its return to London by the same coach, he found the agitation had produced, in a great degree, the desired effect.

In like manner, if it ever happens, (as I hope it will) that Cowhage should be received as a standing article of the materia medica, the most effectual way that I can recommend (and I am sure it is the least troublesome) to those who would obtain a large quantity of the setæ, is to send it a long journey, in a box, not quite full, well lined with paper, and the crevices well

secured; care being taken to place the box about some part of the carriage; for instance near the fore, or hind wheels, where it may undergo the greatest degree of agitation.

C A S E I.

THE Surgeon of a Guineaman, just arrived from the coast of Africa, where he had been upwards of thirteen months, made application to me, for some medicines for the cure of worms, with which he said, that not only he, but most of the negroes belonging to the cargo, were very much troubled, and for which the European medicines that he had tried were found insufficient to answer his purposes. He had heard, he said, that the West Indies afforded medicines, far more efficacious for the cure of worms, than any in Europe; but that, being totally a stranger, he was ignorant of the means of procuring them.

He told me, he had been much subject to worms from his infancy—and he had, when I first saw him, a slight degree of fever, stinking breath, a pale countenance, and want of appetite—low, quick, irregular pulse, and sometimes an inclination to vomit. He complained of a trouble-

some husky cough, and intolerable itching of the nose. A diarrhœa, that had attacked him on his leaving the coast of Africa, and still continued, had reduced him very much.

He had had recourse to aloetics and other bitter purgatives, powdered tin, and filings of tin; mercurials, and almost all other of the known vermifuges, which prevented the disorder from gaining ground with such rapidity as it might otherwise have done, but had not the desired effect of restoring him to health.

At his request, I went on board his ship, where a great number of the cargo, consisting chiefly of Mundingoes, (a nation peculiarly subject to worms) were greatly emaciated, from the same cause.

I was not at that time acquainted with the Cowhage, but recommended to him the cabbage-bark, and undertook to procure him some. Not having a sufficient quantity of it by me to answer his purposes, I sent to my friend, Mr. Stewart, surgeon at Hope Estate, who with great politeness and humanity sent me a large quantity of it. This I gave to the
surgeon

surgeon of the Guineaman, with directions how to use it.

What good effects it might have had on the greater part of the negroes to whom he gave it, he could not tell, as the cargo was sold off in two or three days after he began to use it; but for himself, he found his health better in every respect, after taking two or three doses of the decoction. His way of taking it was, by a teacupfull in the morning, at his breakfast, instead of tea or coffee, adding a little milk and sugar to make it palatable. He did not perceive any immediate effects from it, unless, that on his taking a double dose one morning, it operated very powerfully as a diuretic. The feverish complaint, however, still continued, but in a slighter degree, and began to put on the appearance of a regular intermittent. I recommended to him a gentle emetic, which, with proper evacuants, and a few doses of the cort. Peruv. afterwards—and the use of *vervain tea*, (a gentle aperient, and vermifuge,) to the quantity of one or two quarts a day, re-established his health before he returned to Europe.

I met with him about a year ago in Liverpool, and he told me he had, since I first knew him, given the cabbage-tree-bark to several children, and also been obliged again to have recourse to it himself, with very good success.

C A S E II.

A gentleman, who had a plantation in the mountains at a considerable distance from any other settlement, sent for me to visit one of his negroes, who had been seized in a very extraordinary manner.

The patient was a girl, about eighteen, of a very delicate constitution, and consumptive habit. She had, for about a month before I saw her, complained of an unusual sensation at her stomach, which she sometimes described as a gnawing pain; at other times, like the heart-burn, for which her master had given her magnesia, pulv. é chel. cancror. rhubarb, and many other things, but without effect.

When I was called to her, she had been attacked with a sudden and violent pain near the small of her back, towards the right side, which caused her to shriek¹¹ out incessantly,

incessantly, and roll herself upon the floor in the utmost agony. Her pulse was quick and high—her tongue clean; lips swelled, and pale; and her teeth grinding against each other. This I attributed to the pain she was in, but her master told me it was her usual custom. On enquiry, I found she had very regular returns of the catamenia. As she had been costive for some days, I ordered a clyster; and that she should afterwards be put in a warm bath.

From many of these symptoms, and others which had preceded, I made no doubt of her having worms; and I gave her, as soon as it could be prepared, about three ounces of decoction of cabbage-bark, with twenty-five drops of tinct. thebaica. In two hours, she seemed a little relieved, and had one stool. Towards evening, she slept a little, but was in very great pain all the ensuing night; and the next day, was bad as ever.

The clysters, and warm bath were repeated. From these she seemed to obtain some remission from her pain. The decoction was also repeated, in the quantity
of

of four ounces in the morning, and again in the afternoon. She had no motion, except from her clysters. As her pains were not yet abated, I gave her an opiate at night, which made her sleep soundly. In the morning she took two ounces of *Ol. Ricini*, which gave her two stools, and she was something easier. I then left directions with the gentleman to whom she belonged, to be attentive in giving her the decoction of cabbage-bark, and requested he would send me word every day how she was.

Two days after, he wrote me a line, to inform me she was very well, and had voided a very long worm. However, in about a week, a messenger came to me, desiring that I would go to the mountain, to see the patient, who was worse than ever.

I suspected, that the medicines had been discontinued too soon; but was assured, that my directions had been adhered to very minutely.

On my arrival, I found she had been dead about two hours. I then requested permission of the gentleman to open the body, which he very readily granted. I found the lungs
more

more flaccid, and smaller than usual; they adhered in many places to the pleura, and though adhesions of the lungs to the pleura are sometimes to be found in healthy subjects, yet in this patient they were apparently *morbid*.—A small quantity of purulent matter was lodged in one of the branches of the trachea.---The other viscera of the thorax and abdomen were perfectly found, except a portion of the duodenum, about an inch and a half from the pylorus, which appeared to be a little inflamed.

On opening different portions of the intestines, large knots of worms, of various sizes and lengths, appeared. I examined the parts very narrowly, in order to find out whether they had eaten their way through into the cavity of the abdomen, but no injury of that kind had been done; however, many parts of the intestines exhibited the same appearance of inflammation, as that which I first observed near the pylorus.

This girl had a husband, who went under strong suspicion of having once or twice attempted to poison her; nor was he altogether

ther unsuspected of the same design on the present occasion; but I found no appearance that could serve to justify that suspicion, and am clearly of opinion, that worms were the occasion of this person's death.

I had heard of, but never, till after the time this case occurred, had *experienced* the effects of *Cowbage*. The cabbage-tree-bark had hitherto answered all my expectations; but on finding its inefficacy in this instance, I was induced to make some farther enquiry concerning the *Cowbage*; nor was it long before I had an opportunity of being perfectly convinced of its superior efficacy. (See Case III.)

I have inserted the above case, as one of few, wherein the cabbage-tree-bark failed of its general effects, but not with a view to depreciate its virtues---for a medicine like this, whose general efficacy is incontrovertible, is no more to be rejected, because it *sometimes* has not the desired effect, than the Peruvian bark, because it does not *always* cure those disorders, for which it is accounted a specific.

C A S E

C A S E III.

S—— I——, a child of five years of age, daughter of Mr. E—— I——, a planter at the North Side of the Island, had been much afflicted with almost every symptom of worms, for upwards of half a year, without receiving the least relief from any of the numerous remedies, which she had taken. Scarce a week passed, that she was not attacked with a fever, attended with insatiable thirst, and difficulty of urine. The other symptoms and appearances were, a pale, greenish complexion; grinding of her teeth, not only when asleep, but in the day time when awake; a quick, weak pulse; pain in the right side, and about the navel; a foul tongue; difficulty of breathing---a very stinking breath---lassitude, and inattention to every thing that passed.---Her urine had a very bad smell, was exceedingly turbid, and stained her linen of a greenish colour, which did not easily disappear in washing. Her appetite was in general very good, but sometimes she loathed all manner of food. She picked her nose without ceasing.

Her

Her mother, who had the care of several children, frequently gave the anthelmia, or worm-grass, with very good success to others ; but it seemed to have no effect, except as an *anodyne*, on this, her youngest daughter. It is to be observed, that the worm-grass always has the effect on those who take it, of making them appear as if drunk, for some little time before it operated as an anodyne.

Satisfied that all the child's complaints arose from worms, I directed my views towards their extirpation.

An ounce of very strong decoction of the cabbage-tree-bark was ordered to be given in the morning ; and a large cataplasm of the pulp of *sempervive*, (aloes) with the fresh leaves of garden-rue, and halbertweed, (fantolina) bruised, to be applied, warm, to the abdomen, and there retained by a proper bandage, and renewed twice a day. The very first dose brought away a round worm, about twelve inches long ; a second dose was attended with the like success. I ordered the medicine and cataplasms to be continued ; and being obliged to go to South-side for a week,

week, left proper directions for the management of the child, to be observed during my absence.

While at South-side, I happened to mention this case to a gentleman of the profession, who asked me if I had never tried the *Cow-bage*. I told him, I had often heard of its good effects, and would be very glad to make trial of it, were I but sufficiently assured of its safety. He declared to me, that it was the only vermifuge he had made use of, in his practice, for several years; and on receiving from him the strongest assurances of its innocence, and certainty, which were confirmed by the attestations of several white people, who had seen and known its good effects, I took some of it home with me.

On my return to North-side, I found the child much worse, and was told, that she had been seized with fits. Besides these, a tenesmus was now added to her former complaints.

I considered, that while she had this last mentioned symptom, and while in every stool large quantities of mucus came away, it
would

would be altogether improper to begin with the Cowhage. It was, therefore, my first business to remove the tenesmus; and by a mucilaginous diet, supply, as it were, the deficiency of the intestinal mucus. To this end, opiates in small quantities were given twice a day; sago, okro, and farinaceous substances, free of acrimony, were her only food—and clysters, with decoction of okro, (hibiscus) were injected frequently.

In two days she appeared rather better, but a third convulsion coming on, persuaded me there was no time to be lost. I considered her case as desperate; and notwithstanding the condition of her bowels seemed to forbid the use of Cowitch, and that it was a remedy I had never tried before, I ventured on it, as the last resource.

I mixed the quantity of setæ, scraped from a single pod, in one ounce of very thick honey. Of this, half was given to her at first, in a morning fasting.

The very first dose was attended with the most happy consequences. Upwards of fifty small worms were discharged alive, in the
course

course of the day, with a large quantity of mucus.

Towards bed-time, the remainder was given, and in consequence thereof, a few more worms were passed.

But the tension of the abdomen still continuing, though some few of the symptoms were mitigated, I judged it necessary to continue the Cowhage a few days longer, and left directions accordingly. On my return to see her four days after, I was surprised at the alteration I found in her. She was lively, and active---her pulse was regular, and her belly subsided. The pains had ceased; and, in short, she was in every respect much better; and only complained of weakness. The three or four last doses of Cowhage, which she had taken, produced no effect; I therefore advised, that it should be discontinued for the present; but recommended that a little should be given once a week, or twice in ten days, for some time afterwards. She continued well.

C A S E IV.

A negro boy, about the age of eleven, was once in two or three weeks, seized with a kind of fit, which commonly lasted for four or five hours, during which it was usual for him to shriek out with violence, and continue so to do without interruption for several hours. This, the negroes, who are excessively superstitious, attributed to the effects of *obeah*, as they call it---or witchcraft; and upon this supposition, the boy grew worse and worse every day, no methods being taken for his relief, except such as the negroes themselves applied, by way of exorcism, or charm.

At last, his fits becoming more frequent, the overseer of the estate, to which the boy belonged, ordered that he should be brought to me the next time he was so seized.

When I saw him, he lay stretched out on his back; his upper and lower extremities being quite motionless---but the abdominal muscles, and all those, concerned in respiration, seemed to undergo an unusual
 3 degree

degree of agitation, and to appear as if convulsed by his efforts in shrieking. His eyes appeared as if ready to start from their sockets, and his pulse was quick, and irregular.

I first ordered a warm bath to be got ready, into which he was to be put, for an hour, and in the mean time, a common clyster was administered. I also directed a saline draught, with twenty drops of tinctura thebaica, which I attempted to give him, but he spit the greatest part of it out. I then prepared another, but had no occasion to give it, for, after he had been in the bath about three quarters of an hour, he became quiet, and fell asleep. He was then taken out, and laid in a clean, warm bed, where he slept soundly *sixteen* hours, without once awaking, though in that time several attempts were made to rouse him, but to no purpose. His breathing was free and unoppressed, all the while, and his sleep, in all respects, like that of a person in perfect health.

I was at no loss, from the first, to guess at the chief cause of his complaint. His belly

was prominent and very hard. His eyes had all that peculiar languor to be observed in those who have worms; his nostrils were widely dilated, his lips whitish, and the upper lip swelled, so as to be in contact with his nose; his complexion, from a shining jet black, was turned of a dirty yellow colour, lightest about the eyes and mouth. In a word, I never saw a patient who had more evident symptoms of worms.

A few hours after he had recovered from his sleep, I ordered him an emetic. During its operation, he felt something in his throat, which, he said, tickled him, but which he could not bring up. However, at last, he vomited up a worm, eight inches and a quarter in length, and in about two hours afterwards, was disturbed by a fit of coughing, and the same tickling sensation felt before. In a little time, he coughed up a second worm, about five inches long.

Next morning, I gave him a table-spoon-full of the Cowhage mixture; and left orders that it should be given to him every morning until my return, which would be in three days. At the end of that time, on

enquiry, I found every dose had been attended with surprizing effects, and had brought away a prodigious number of worms, with a quantity of whitish matter, which appeared to be the mucus of the intestines, secreted in greater abundance from the irritation, and consequent increased peristaltic motion occasioned by these destructive reptiles.

I ordered a dose of jalap, and cabbage-tree-bark in powder, $\overline{aa}$ gr. xv. in $\mathfrak{z}$ ij. of the decoction of the same bark, to be given, as a purge, on the fourth morning; and the Cowhage to be afterwards continued as long as any worms were found to come away in the stools.

In less than eight days, all the symptoms abated, and in a few days more, the boy was perfectly well, and able to go to his work with alacrity.

C A S E V.

Mr. *John Edmonds*, a book-keeper on one of the estates which I attended, whose business it was to see the directions,

left in the hot-house book of the estate, put in execution, observing the good effects of the Cowitch, given to the negroes, in various worm cases, took it into his head to take a little of it himself, in the way it was usually prescribed, on a supposition, that he might have worms, though he had no complaint that indicated their existence. However, after the first dose, he passed one very large and long one---and after the third, he passed three smaller ones. He found no farther effect from a few subsequent doses, except, that he said, it eased a pain like the heart-burn, he often felt before, especially after meals.

This person sometime after, went to live at a remote part of the island, from whence, in about two years afterwards, he wrote me a long letter, filled with eulogia on the virtues of Cowhage, and a list of cases in which it had been given with wonderful success.

C A S E VI.

A young lady, aged 13, (the daughter of a gentleman in Kingston) had from her infancy been very much subject to worms, for which she had taken various medicines at different times. About the month of July, 1779, she was suddenly seized with convulsions, as she was sitting at tea. The usual remedies, such as sp. hartshorn, asafœtida, &c. were applied, which relieved her for a time.

She had been very much indulged in eating green fruit, unripe corn, and the like trash. She had a hard tense belly, cough, and a most voracious appetite. Her breath, and urine, were uncommonly fœtid, and the latter stained her linen of a light saffron colour. Her stools had been very irregular; sometimes she was reduced by a diarrhœa, and at other times, an obstinate costiveness occasioned severe pains in her head. She complained very frequently of griping pains about the umbilical region; had a quick, low pulse; her eyes had a peculiar deadness; but the young

lady, instead of being, as is usually the case in complaints of this nature, oppressed with lassitude, and averse from all manner of exercise, was always very lively and alert.

From most of the symptoms, I had no doubt of her disorder proceeding from worms. This, though very plain, was laughed at by the young lady's relations, who declared, that it was impossible she could have worms, as she had for a long time been taking medicines on that account; and, that though subject to them formerly, she had not passed any for a long time. These declarations, however, were by no means sufficient to convince me that they were not the cause of her complaints, and with much difficulty I prevailed on the father of the young lady to let her take Cowhage, which perhaps would not have been complied with so soon, had not another convulsive fit, the following day, threatened her life.

The first dose, to the amount of a tea-spoonful, given at bed-time, had no effect. The night following, I gave two tea-spoonful, and in the morning, a table-spoonful,

To-

Towards evening, she passed two very large worms. On the morning of the third day, an ounce of castor oil was given, which brought away an incredible number; some alive, others dead. She had no return of her convulsions after the first dose; but I thought it proper to continue the use of the Cowhage a few days longer. In less than a week, its good effects were manifest. Her eyes regained their natural vivacity; her pulse became regular; the hardness and swelling of the belly were lessened, and by degrees entirely disappeared, so that in a short time she regained a perfect state of health.

C A S E VII.

Charles Thompson, a cabin-boy belonging to a ship in the West-India trade, was, soon after her departure from England, for the West-Indies, attacked with violent griping pains in the bowels.---His face and lips were exceeding pale, and he was considerably emaciated; nothing could persuade him to stir out of his hammock, or take any kind
of

of exercise. He slept almost continually, and eat voraciously.---As he had some feverish symptoms when he first applied to me, I gave him an emetic, which brought off a great quantity of bilious matter from his stomach, but did not relieve the gnawing pain that he complained of. A few grains of magnesia, with rhubarb, procured him some stools the next day, but did not at all contribute to ease the pain.

Not doubting, from the symptoms, that worms were the chief causes of his complaint, I gave him, for four or five mornings successively, a table-spoonful, and sometimes two, of the Cowhage mixture. After the very first dose, the pain in his bowels went off---and in about a week the boy returned to his duty as well as ever.

C A S E VIII.

James Gilmour, a carpenter, aged 27, of an athletic make, and strong constitution, from an excessive and continual itching at his nose, imagined he had worms; and applied to me for relief. His other symptoms were
great

great thirst, feverish heat, and frequent flushings in the face. He had no appetite, and often vomited after eating. He was seldom free from a diarrhœa, and often complained of pains in his bowels and side; his tongue was foul, and he had a fixed pain in his head.

The first evening he came to me, I ordered him a gentle emetic, of vin. ipecacoan and an ounce of ol. ricini, to be taken the following morning.

After I had cleansed the intestines by these evacuations, I gave him a small quantity of the electuary of Cowhage made in the usual manner, with directions how to take it.

According to these directions, he was not to have taken any, until the morning after the purge; but he was so impatient to get rid of his troublesome inmates, as he said, that he took a dose of it, the same night, and a second, early the next morning. He complained, that the medicine occasioned a very disagreeable tickling in his mouth; and on enquiry, I found that he had separated the setæ from their vehicle,
and

and after sucking and swallowing the melleasses, had spit most part of the Cowhage out.---This electuary had been kept a good while; and from the heat of the weather was grown thin, and disposed to ferment. However, I made him a fresh quantity with very thick treacle, desiring him to observe the former directions. This gave no uneasiness in swallowing, or at least, very little.

Two days after, he sent to me, requesting I would go to see him. I was afraid he was worse, but was agreeably surprised to find him extremely well. He told me, he had sent to me, to shew me the effects of the medicine, and produced near half a pint of worms, which he had discharged by stool that morning, and had passed as many more the preceding day.

I told him to continue the electuary as long as he perceived any worms to come away in his stools, but no more being discharged after the fourth or fifth dose, he discontinued it, and was, in a short time, perfectly free from all his complaints.

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The foregoing Cases have been selected out of a great number, wherein the Cowhage was tried with equal success. Many more might have been added, but it is presumed, those will be deemed sufficient to prove the safety and efficacy of that excellent Medicine.

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